UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
TON, ANTHONY T

ART UNIT	PAPER NUMBER
2661	5

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/750,140	GEORGE, EDWARD N.
	Examiner	Art Unit
	Anthony T Ton	2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 December 2000</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-17</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-13</u> is/are rejected.

7)☒ Claim(s) <u>14-17</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>18 April 2001</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date <u>4</u>.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

Detailed Actions
Drawings

1.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4)

because reference character "**GATEWAY PLATFORM-A**" has been used to designate

both "Modem Relay Unit 3" and "Modem Relay Unit 9" in **Fig.1** and **Fig.2**.

Examiner suggests changing the "**GATEWAY PLATFORM-A**", which is

corresponding to the "Modem Relay Unit 9", to "**GATEWAY PLATFORM-B**".

A proposed drawing correction or corrected drawings are required in reply to the

Office action to avoid abandonment of the application. The objection to the drawings

will not be held in abeyance.

Abstract

2.   The abstract of the disclosure is objected to because the following informalities:

Examiner suggests changing term "**The modem** relay provides a local interface

to **the modem** on both ends of a call" in line 3 to "**A modem** relay provides a local

interface to **a modem** on both ends of a call" since both of modems are different to each

other.

Correction is required. See MPEP § 608.01(b).

Claim Objections

3.   **Claims 1, 2, 6** and **10** are objected to because of the following informalities:

a) **In Claim 1**: term "reduced bandwidth, and improved **resistence**" in lines 1-2 is

not proper since misspelling for word "resistence", and the comma "," should not be

used between characters "bandwidth" and "and";

Examiner suggests changing this term to "reduced **bandwidth and** improved

resistance".

b) <u>In Claim 2</u>: term "**commination**" in line 1 is misspelling;

Examiner suggests changing this term to "**communication**".

c) <u>In Claim 6</u>: comma "," that is used between characters "network driver" and "to

maintain" in line 5 is not proper;

Examiner suggests changing the term "**network driver, to maintain**" in line 5 to

"**network driver to maintain**".

d) <u>In Claim 7</u>: comma "," that is used right after term "**equipment**" in line 8

should be replaced by a period "." to indicate the end of the claim.

Examiner suggests changing the term "**equipment,**" in line 8 to "**equipment.**"

f) <u>In Claim 10</u>: term "**and**" should be added after term "**a local interface;**" in line

5 to make the claim more clearly in formality.

Examiner suggests changing the term "**a local interface;**" in line 5 to "**a local

interface; and**".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5.   **Claims 1-4** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

a) **Claim 1** recites the limitation "A system **for transmitting modem** across a

packet network" in **line 1** is vague and indefinite since how could a "**modem**" (it's just a

piece of communication hardware) be transmitted by a communication system across a

packet network? Therefore, the limitation is indefinite.

b) **Claim 1** recites the limitation **"said first end"** in **line 14**. There is insufficient

antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   **Claims 1-3, 5** and **7-12** are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Verreault** (US Patent No. **6,434,169**) in view of **Sullivan et al** (US

Patent No. **6,667,986**).

a) **In Regarding to Claim 1**: **Verreault** disclosed a system for transmitting

modem signals across a communication network with reduced bandwidth and improved

resistance to network packet loss *(see Fig.4)*, comprising:

a first processor for connection between a first modem and a first side of said

network *(see Fig.5: V.32 BIS State Machine; Fig.6: DSP CALL; and col.5 lines 29-30:*

TM320C551 DSP) for:

providing a local interface to said first modem *(see Fig.5: block of linear*

input buffers);

demodulating the full duplex data stream from said first modem into bits

(see col.17 lines 44-52: full duplex exchange, demodulate);

packetizing the bits for transport over a network *(see Fig.5: block*

packetizer); and

remodulating the data stream from a remote end *(see Fig.5: block*

modulator; and see col.6 lines 54-55: data is modulated. In which, when a data

packet is received from the far-side modem relay unit (the one that is on the right

side of "data" in Fig.4), then the data packet is modulated (re-modulated) and

sent to a local modem that connected to the first-end data device (the one that is

on the leftmost in Fig.4)), and

a second processor for connection between a second modem and a second side

of said network *(see Fig.5: V.32 BIS State Machine; Fig.7: DSP ANS; and col.5 lines*

29-30: TM320C551 DSP) for:

providing a local interface to said second modem *(see Fig.5: block of*

linear input buffers);

demodulating the full duplex data stream from said second modem into

bits *(see col.17 lines 44-52: full duplex exchange, demodulate)*;

packetizing the bits for transport over a communication network *(see*

Fig.5: block packetizer); and

remodulating the data stream from the first end *(see Fig.5: block*

modulator; and see col.6 lines 54-55: data is modulated. In which, when a data

packet is received from the original-side modem relay unit (the one that is on the

left side of "data" in Fig.4), then the data packet is modulated (re-modulated) and

sent to a local modem that connected to the far-end data device (the one that is

on the rightmost in Fig.4)).

Verreault failed to explicitly disclose the communication network is a packet

network. However, **Verreault** clearly disclosed packets that relate to a data network, in

which, packets can be transmitted by a first-side modem relay unit across a data

medium to a far-side modem relay unit as shown in Figs.4 and 5. Therefore, **it would**

be obvious on the disclosure of **Verreault** related to this subject matter of the instant

claim.

Sullivan et al clearly disclosed a packet network that is used to provide high

speed data access using a distributed modem *(see Figs1 and 5: block 20 (local modem)*

and block 40 (distributed modem – the modem relay unit as disclosed by the applicant)

shown in Fig.1; and block 150 shown in Fig.5 represents for the packet data network as

disclosed by the applicant).

It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to provide such a packet network by replacing the data medium of

Verreault a packet network as taught by **Sullivan** et al, so that a voice can be sent

across a packet network, **the motivation being** to support different data rates and save

bandwidth.

b) **In Regarding to Claim 2: Verreault further disclosed** the system further

comprising:

means for establishing optimal modulation and rate parameters for

communication between said first and second modems _(see Fig.5: blocks "Network RX_

Queues", "Rate Controller", and "Modem Controller & Sinodem Access"; and see Table

1 in col.6: Optimal Queue size of the modem controller).

It would have been obvious to combine **Verreault** and **Sullivan** et al for the

same reason as in Claim 1.

c) **In Regarding to Claim 3: Verreault further disclosed** wherein said means

for establishing optimal modulation and rate parameters includes the exchange of

signaling messages to determine the best commonly supported data rate _(see col.7 line_

47-col8.line 6: signaling message; and see Claim 13 in col.54: data rates supported).

It would have been obvious to combine **Verreault** and **Sullivan** et al for the

same reason as in Claim 1.

d) **In Regarding to Claim 5: Verreault disclosed** a system wherein an

originating modem terminal equipment MTE connects to an intermediate digital network

via an originating modem relay unit MRU and wherein a destination modem terminal

equipment connects to the network via a destination modem relay unit _(see Fig.4)_, a

method of providing modem communications comprising:

the originating modem terminating equipment sending data to the destination

modem terminating equipment via the originating modem relay unit and the destination

modem relay unit _(see Fig.4: Data Device on the left side sending data to destination_

Data Device on the right via modem relay units locate on the left and right of the "data"

medium);

the originating modem relay unit sending the data to the destination modem relay

unit *(see Fig.5: in which, demodulated data is packetized and sent to the destination*

modem relay unit throughout the block of network transmit); and

while the destination modem relay unit is waiting for data from the originating

modem terminating equipment, the destination modem relay unit maintaining

communication with the destination modem terminating equipment to prevent protocol

timeouts of the destination modem terminating equipment *(see col.2 line 63-col.3 line 3:*

its counterpart modem relay (destination relay unit) in order to negotiate compatible

data transmission conditions; and see col.10 lines 1-9: performs the state sanity timeout

verification).

Verreault failed to explicitly disclose the communication network is a digital

network. However, **Verreault** clearly disclosed packets that relate to a data network, in

which, packets can be transmitted by a first-side modem relay unit across a data

medium to a far-side modem relay unit as shown in Figs.4 and 5. Therefore, **it would**

be obvious on the disclosure of **Verreault** related to this subject matter of the instant

claim.

Sullivan et al clearly disclosed a digital network that is used to provide high

speed data access using a distributed modem *(see Figs1 and 5: block 20 (local*

modem), block 40 (distributed modem – the modem relay unit as disclosed by the

applicant), and digital data path 16 shown in Fig.1; and block 150 shown in Fig.5

represents for the packet data network as disclosed by the applicant).

It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to provide such a digital network by replacing the data medium of

Verreault a digital network as taught by **Sullivan** et al, so that a voice can be converted

into digital and then sent across a digital network, **the motivation being** to support

different data rates and save bandwidth because of voice compression techniques.

e) **In Regarding to Claims 7** and **9**: **Verreault disclosed** a system wherein an

originating modem terminal equipment connects to an intermediate digital network via

an originating modem relay unit and wherein a destination modem terminating

equipment connects to the network via a destination modem relay unit *(see Fig.4)*, a

method of receiving a modem communication comprising, by the destination modem

relay unit:

receiving data from the originating modem terminating equipment *(see Fig.4: in*

which, data is being sent from the Data Device on the left (the originating modem

terminating equipment) to the to destination Data Device on the right via modem relay

units locate on the left and right of the "data" medium); and

while waiting for data from the originating modem terminating equipment,

maintaining communication with the destination modem terminating equipment to

prevent protocol timeouts of the destination modem terminating equipment *(see col.2*

line 63-col.3 line 3: its counterpart modem relay (destination relay unit) in order to

negotiate compatible data transmission conditions; and see col.10 lines 1-9: performs

the state sanity timeout verification).

Verreault failed to explicitly disclose the communication network is a digital

network as set forth in **Claim 7** and the network is of unknown and unpredictable delay

as set forth in **Claim 9**. However, **Verreault** clearly disclosed packets that relate to a

data network, in which, packets can be transmitted by a first-side modem relay unit

across a data medium to a far-side modem relay unit as shown in Figs.4 and 5.

Therefore, **it would be obvious** on the disclosure of **Verreault** related to this subject

matter of the instant claims.

Sullivan et al clearly disclosed a network that is used to provide high speed

data access using a distributed modem (*see Figs1 and 5: block 20 (local modem), block*

40 (distributed modem – the modem relay unit as disclosed by the applicant), and digital

data path 16 shown in Fig.1; and block 150 shown in Fig.5 represents for the packet

data network as disclosed by the applicant in instant claims because in a data packet

network, packets can be experienced many unpredictable problems such as delay, loss

or error since connection failures or processing time).

It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to provide such a digital network by replacing the data medium of

Verreault a digital network as taught by **Sullivan** et al, so that a voice can be converted

into digital and then sent across a digital network, **the motivation being** to support

different data rates and save bandwidth because of voice compression techniques.

f) **In Regarding to Claim 8**: this claim is rejected for the same reasons as claim

7 because the apparatus in claim 7 can be used to practice the method steps of claim 8.

g) **In Regarding to Claims 10-12**: these claims are rejected for the same

reasons as claims 1-3, respectively because the apparatus in claims 1-3 can be used to

practice the method steps of claims 10-12.

8.   **Claims 4** and **13** are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Verreault** (US Patent No. **6,434,169**) in view of **Sullivan et al** (US Patent No.

6,667,986) as applied to claims 1-3 above, and further in view of **Barzegar et al** (US

Patent No. **6,347,075**).

a) **In Regarding to Claim 4**: **Verreault** and **Sullivan** et al **disclosed** all aspects

of claim 4 as set forth in Claims 1-3.

Both **Verreault** and **Sullivan** et al **failed to explicitly disclose** said means for

establishing optimal modulation and rate parameters further includes:

means for independent connection of said first and second modems if no

commonly supported data rate is determined.

However, *in Fig.3, Verreault disclosed exchange parameter information (means)*

with terminals 44 and 46 respectively upon detection of a switch from voice to data at

either end of the network. For example, when terminal 44 initiates a modem call, relay

40 exchanges parameter information with terminal 44 to ascertain a common set of

parameters such as supported data rate, modulator type and encoding. The modem

relay 40 also advises modem relay 41 that a data call is being directed to terminal 46.

The modem relay 41 and terminal 46 then exchange parameter information and select a

set of conditions supported by both. Upon completion of this exchange, the modem

relays 40 and 41 arrive at a set of conditions that can be supported by both modems

taking into account the rate employed by the network. Thus, for example, if the terminal

44 can operate at 14.4 kbps but the modem relay 40 only supports 12 kbps, while

terminal 46 can operate at 28.8 kbps and the modem relay 41 supports 14.4 kbps, the

two modem relays will agree on a rate of 12 kbps. However, if the rate is only 8 kbps,

this minimum rate will be indicated by the unit relays 40 and 41 during the exchange for

the communications between the terminals 44 and 46 (see col.4 lines 23-45). Hence,

the communication connection would be setup independently by modems and terminal

in the both sides of communications networks.

Barzegar et al explicitly disclosed such a means *(see col.2 lines 44-67: a*

server called an intelligent services director (ISD) provides multiple independent

connections for telephones which ordinarily connect to multiple access virtual circuits

generated on the subscriber link over a twisted pair)

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention was made to provide such a means for independent connection of

said first and second modems if no commonly supported data rate is determined

throughout the parameter information of Verreault as taught by Barzegar et al, so that a

data can be transmitted throughout a communication network in different rates without

any affections, **the motivation being** to support different data rates and save

bandwidth.

b) **In Regarding to Claim 13**: this claim is rejected for the same reasons as
claim 4 because the apparatus in claim 4 can be used to practice the method steps of
claim 13.

9.   **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Verreault**
(US Patent No. **6,434,169**) in view of **Sullivan et al** (US Patent No. **6,667,986**) as
applied to claim 5 above, and further in view of **Beighe et al** (US Patent No. **5,912,896**).

Verreault further disclosed the modem relay unit includes:

a modem driver connected to said digital network and a modem relay protocol
unit connected between said modem driver and said modem network driver to maintain
state and to format modem data for said digital network *(see Fig.5: block of V32 BIS
modem relay state machine)*.

Both **Verreault** and **Sullivan** et al **failed to explicitly disclose** said modem
relay unit includes:

a modem network driver connected to set modem.

Beighe et al explicitly disclosed such a modem network driver *(see Fig.3:
block 70)*

Therefore, it would have been obvious to one of ordinary skill in the art at the
time of the invention was made to provide such a modem network driver throughout the
data communications network of Verreault, as taught by Beighe et al, so that a data can
be stored and forwarded throughout a communication network, **the motivation being** to
make Verreault compatible and more efficient.

Allowable Subject Matter

10.   **Claims 14-17** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T Ton whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ATT
4/12/2004

KENNETH VANDERPUYE
PRIMARY EXAMINER